

Prerequisite courses: none

Grade level: 9-12

Course Description

In this course, students are introduced to core concepts of motion, energy, waves, and matter. Through labs and engaging lessons, students explore topics like speed, velocity, acceleration, and the transfer of energy between potential and kinetic forms. The course also examines sound, light, and the electromagnetic spectrum, highlighting their real-world applications. Students will delve into the periodic table, chemical bonding, and reactions, learning to balance equations and understand the rates of reactions. Additionally, they will investigate the properties of matter, density, and the behavior of gases.

This course is part of the Exceptional Students Course Suite, designed for high school students working three or more grade levels behind. The Exceptional Students courses are ideal for students whose IEPs allow them to earn credit for below-grade-level coursework.

Course Objectives

Students will meet the following goals in this course.

- Understand the principles of motion, including speed, velocity, and acceleration, and interpret related graphs.
- Explore the relationship between potential and kinetic energy and analyze energy transfer in systems.
- Investigate the properties and uses of waves, including sound, light, and the electromagnetic spectrum.
- Learn about the periodic table, types of chemical bonds, and how to balance chemical equations.
- Examine the properties of matter, including density and states of matter, through hands-on experiments.
- Apply scientific laws and concepts to solve real-world problems and deepen understanding of physical science principles.

Student Expectations

This course requires the same level of commitment from students as a traditional classroom course. Students are expected to spend approximately 5–7 hours per week online on:

- interactive lessons, which include a mixture of instructional videos and tasks.
- assignments, in which they apply and extend learning in each lesson.
- assessments, including quizzes, tests, and cumulative exams.

Physical Science Essentials

Communication

Teachers will communicate with students regularly through discussions, emails, chats, and system announcements. Students will also communicate with classmates, either via online tools or face to face, to collaborate, ask and answer questions in peer groups, and develop speaking and listening skills.

Grading Policy

Students will be graded on work completed online and work submitted electronically to the teacher. The weighting for each category of graded activity is listed below.

Grading Category	Weight
Assignments	20%
Lesson quizzes	30%
Unit tests	30%
Cumulative exams	20%

Scope and Sequence

When students log on to Imagine Edgenuity, they can view the entire course map—an interactive scope and sequence of all topics under study. The units of study are listed below

Course Units
Unit 1: Energy and Motion
Unit 2: Waves
Unit 3: Elements and the Periodic Table
Unit 4: Physical and Chemical Reactions
Unit 5: Properties of Matter